L3: Entry 1 of 2 File: EPAB Jan 20, 1988

PUB-NO: EP000253198A1
DOCUMENT-IDENTIFIER: EP 253198 A1
TITLE: Single-component tissue adhesive and method for producing same.

PUBN-DATE: January 20, 1988

INVENTOR-INFORMATION:

| NAME | COUNTRY |
|---|---|
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|---|---|
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APPL-NO: EP87109374
APPL-DATE: June 30, 1987
PRIORITY-DATA: DE03622642A (July 5, 1986)

INT-CL (IPC): A61L 25/00
EUR-CL (EPC): A61L025/00

ABSTRACT:

1. Claims for the Contracting States : AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE A tissue adhesive containing, in liquid or solid form, fibrinogen, F XIII, a thrombin inhibitor, prothrombin factors and calcium ions and, where appropriate, a plasmin inhibitor. 1. Claims for the Contracting States : GR, ES A process for the production of a tissue adhesive, which comprises addition to an aqueous isotonic solution which has a pH of 7.5, which has been, where appropriate, pasteurized and, where appropriate, sterilized by filtration, and which contains at least 16 g/l human fibrinogen, 2 g-atoms of calcium per mol of fibrinogen and 1-6 g/l L-arginine monohydrochloride, of sufficient of a solution, which has, where appropriate, been pasteurized, of human factor XIII, of human albumin, of prothrombin concentrate, of antithrombin III and of aprotinin and, where appropriate, Na glutamate and isoleucine that the freeze-dried solution contains, in 1/4 of the volume dispensed into the container, these substances in the following concentration ranges : 65-115 mg/ml of human fibrinogen, 40-80 U/ml of factor XIII 4-40 mg/ml of human albumin, 1-50 IU/ml of PPSB (prothrombin factors), based on F II (prothrombin) 0.01-50 IU/ml of antithrombin III and, where appropriate, 1-10, 000 KIU of aprotinin/ml and 0-20 g/l of Na glutamate and 0-20 g/l of isoleucine.

**Records 1 of 1 In full Format**

1. 1/19/1 (Item 1 from file: 345)

5019145
Basic Patent (No,Kind,Date): AT 8200683 A 830915

PATENT FAMILY:
AUSTRIA (AT)
Patent (No,Kind,Date): AT 8200683 A 830915
VERFAHREN ZUR HERSTELLUNG EINES GEWEBEKLEBSTOFFES (German)
Patent Assignee: IMMUNO AG (AT)
Author (Inventor): LINDNER ADOLF DR; LINNAU YENDRA DR
Priority (No,Kind,Date): AT 82683 A 820223
Applic (No,Kind,Date): AT 82683 A 820223
IPC: * A61L-015/04
CA Abstract No: * 101(10)078893S; 101(10)078893S
Derwent WPI Acc No: * C 83-777186; C 83-777186
Language of Document: German
Patent (No,Kind,Date): AT 374367 B 840410
VERFAHREN ZUR HERSTELLUNG EINES GEWEBEKLEBSTOFFES (German)
Patent Assignee: IMMUNO AG (AT)
Author (Inventor): LINDNER ADOLF DR; LINNAU YENDRA DR
Priority (No,Kind,Date): AT 82683 A 820223
Applic (No,Kind,Date): AT 82683 A 820223
IPC: * A61L-015/04
Language of Document: German

AUSTRIA (AT)
Legal Status (No,Type,Date,Code,Text):
AT 82683 A 820223 AT AEA DATE OF DOMESTIC APPLICATION
(DATUM DER INLANDSANMELDUNG)
AT 82683 A 820223
AT 82683 A 830915 AT A PUBLISHED EXAMINED APPLICATION
(AUFGEBOT)
AT 82683 A 840410 AT AGA PUBLISHED AS PATENT NUMBER
(PUBLIZIERT ALS PATENTSCHRIFT)
AT 374367 B 840410
AT 374367 P 820223 AT AE APPLIED (PATENT APPLICATION)
(ANGEMELDET (PATENTANMELDUNG))
AT 82683 A 820223

immune complexes of patients with systemic lupus erythrematosus are removed from blood by a filter contg. polymer absorbents. Thus, *triallyl isocyanurate–vinyl acetate–vinyl alc. copolymer* [81273-18-9] was synthesized, and L-tryptophan was immobilized on the surface of this polymer. This absorbent was packed in a cylinder and placed in an extracorporeal circulation of patients with systemic lupus erythrematosus. The efficacy of the absorbent in removing immune complexes was demonstrated.

101: 78888u **Surgical threads.** Ethicon, Inc. **Jpn. Kokai Tokkyo Koho JP 59 34,264 [84 34,264]** (Cl. A61L17/00), 24 Feb 1984, US Appl. 401,661, 26 Jul 1982; 30 pp. Surgical threads are prepd. from hydrophobic, thermally plasticized elastomers. These threads, when used in surgery, maintain mech. strength for a long time in the body. For example, *poly[tetramethylene terephthalate-co-poly(oxytetramethylene terephthalate)]* [9078-71-1] was prepd. from polymn. of di-Me terephthalate, 1,4-butanediol, and poly(tetramethylene oxide). The polymer was made into fibers and combined with silk to form a conjugated surgical thread.

101: 78889v **Lubricants for surgical rubber gloves.** James, Michael Howard; Bratby, David Michael; Blackley, David Charles; Duck, Roger; Podell, Howard Irwin; Goldstein, Albert (LRC Products Ltd.) **PCT Int. Appl. WO 84 00,908** (Cl. B21H21/04), 15 Mar 1984, GB Appl. 82/25,200, 03 Sep 1982; 27 pp. A skin-contacting lubricant layer formed from a hydrogel polymer bonded to a surgical rubber glove is treated with a bactericidal surfactant or a long chain fatty amine to improve the lubricity of the layer with respect to skin. A thin dipped surgical glove of natural rubber latex was leached with $H_2SO_4$, rinsed, primed by dipping in $Al_2(SO_4)_3$ soln., dried and dipped in 4% alc. soln. of *2-hydroxyethyl methacrylate-methacrylic acid copolymer* [31693-08-0] followed by drying. The rubber was vulcanized and the lubricity with respect to dry skin was evaluated. The coating adhered satisfactorily to the rubber and no visible flaking was obsd.

101: 78890p **Hydrogel contact lenses.** Atkinson, Ivor B.; Holdstock, Barry C.; Knowlton, John L. (CooperVision (U.K.) Ltd.) **Eur. Pat. Appl. EP 106,650** (Cl. C08F226/10), 25 Apr 1984, GB Appl. 82/28,965, 11 Oct 1982; 17 pp. A soft hydrogel contact lens is formed from a hydrated lightly crosslinked copolymer of *N*-vinylpyrrolidone (NVP) and a short chain alkyl acrylate or methacrylate in a wt. ratio of 1.75–2.25 : 1, a short chain unsatd. carboxylic acid, a crosslinking monomer and a chem. free radical initiator. The lens has a high water content with good mech. properties. Lenses were cut by lathing buttons prepd. polymn. of redistd. methacrylic acid 3.22, purified Me methacrylate 32.18, NVP 64.37, and allyl methacrylate 0.23 g using AIBN as initiator. The lenses, hydrated by soaking in $NaHCO_3$ saline soln. at pH 7.4 had a hydrated refractive index of 1.376 and water content 73.4% wt./wt.

101: 78891q **Poly(vinyl alcohol) hydrogels as prosthetics.** Nippon Oil Co., Ltd. **Jpn. Kokai Tokkyo Koho JP 59 56,446 [84 56,446]** (Cl. C08L29/04), 31 Mar 1984, Appl. 82/164,870, 24 Sep 1982; 11 pp. A *poly(vinyl alc.)* [9002-89-5] aq. soln. is frozen and thawed repeatedly to obtain hydrogels that may be used as prosthetic materials. Thus, poly(vinyl alc.) with av. d.p. of >700 was dissolved in $H_2O$ >6 wt. %, frozen at <–3°, thawed at <55°, and subjected to the freeze–thaw process repeatedly to obtain a hydrogel with greater mech. strength. The product was used as a substitute of femur arthrodial cartilage in rabbits.

101: 78892r **Wound covering textile.** Braun, Karl Otto, K.-G. **Austrian AT 374,361** (Cl. A61F13/00), 10 Apr 1984, Appl. 82/1,511, 19 Apr 1982; 7 pp. A wound covering that does not adhere to the skin and allows rapid removal of secretions from the wound surface is prepd. from a highly elastic web of hydrophobic synthetic fibers (such as polyester, polyamide, and polypropylene) composing the wound contact surface. This surface is heat-treated to bond the fibers to each other and to an absorbent layer of highly napped fibers (such as cotton, cellulose, and linen).

101: 78893s **Hemostatic wound covering adhesive.** Lindner, Adolf; Linnau, Yendra (Immuno A.-G. fuer Chemisch-Medizinische Produkte) **Austrian AT 374,367** (Cl. A61L15/04), 10 Apr 1984, Appl. 82/683, 23 Feb 1982; 4 pp. An adhesive dressing contains fibrinogen, *blood-coagulation factor XIII* [9013-56-3], a plasmin inhibitor, an antibiotic, and a cytostatic agent in a tissue-compatible protein or polysaccharide fleece or film matrix. Thus, 10 L frozen human plasma was warmed to 2° and the cryoppt. was obtained and sepd. from the cold-sol. proteins by extn. of the latter with buffer. The residue was dissolved in 100 mL citrate–glycine buffer at 37°, mixed with 2500 units *aprotinin* [9087-70-1], 20 IU *heparin* [9005-49-6], and 2000 mg *amikacin sulfate* [39831-55-5], and sterilized by filtration. The filtrate (contg. ≥1000 units factor XIII and ≥7500 mg fibrinogen) was used to treat 70 $cm^2$ pieces of collagen fleece (15 mL/piece), and the material was frozen, lyophilized, and packaged aseptically.

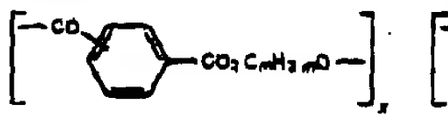
101: 78894t **Improved surgical dressings.** Nippon Kayaku Co., Ltd. Teikoku Seiyaku Co., Ltd. **Jpn. Kokai Tokkyo Koho JP 59 53,411 [84 53,411]** (Cl. A61K9/70), 28 Mar 1984, Appl. 82/162,287, 20 Sep 1982; 4 pp. Improved surgical dressings comprise kaolin 1–10, *urea* [57-13-6] 0.3–2.0, gelatin 0.5–6.0, *CM-cellulose Na* [9004-32-4] 0.2–3.0, *poly(Na acrylate)* [25549-84-2] 6.0–10.0, polyhydric alcs. 10.0–40.0, oils 0–5.0, surfactants 0–5.0, and $H_2O$ to 100% by wt. The dressings have adequate adhesiveness, flexibility, and stabilizing effects on drugs incorporated. Thus, one dressing comprises kaolin 5, urea 1, gelatin 2, *Me salicylate* [119-36-8] 2, *dl*-camphor 0.5, *l*-menthol 0.625, $ZnPO_4$ 1, glycerin 20, poly(Na acrylate) 7.2, CM cellulose Na 1, and $H_2O$ 59.675 parts.

101: 78895u **Bandages for athletes.** Nitto Electric Industrial Co., Ltd. **Jpn. Kokai Tokkyo Koho JP 59 51,855 [84 51,855]** (Cl. A61L15/06), 26 Mar 1984, Appl. 82/162,930, 18 Sep 1982. Bandages for the protection of skin and muscles against in[illegible] athletes are prepd. using polyester–cotton cloths treated with water-repellents and adhesives. Thus, a cloth contg. polyester mixed fibers (30:70%) for the warp and cotton fibers for the [illegible] treated with a water-repellent, *octadecyl isocyanate–vi[illegible] copolymer* [91310-21-3], on one side, and treated on the ot[illegible] with a rubber pressure-sensitive adhesive comprising natura[illegible] 100, a rosin 100, zinc White 100, polybutene 20, and a prese[illegible] parts. Improved phys. properties of this bandage were descri[illegible]

101: 78896v **Individual dental castings.** Pfannenstiel, [illegible] Huebner, Heijo (ESPE Fabrik Pharmazeutischer Pr[illegible] G.m.b.H.) **Ger. Offen. DE 3,240,907** (Cl. B22C1/22), 10 M[illegible] Appl. 05 Nov 1982; 20 pp. Individual dental castings are [illegible] from a photopolymerizable mass contg. an acrylate or a meth[illegible] monomer, a photoinitiator such as camphorquinone and photo[illegible] the mass at 400–500 nm. Form-stable casting models for the [illegible] of crowns, bridges, inlays and secondary parts for det[illegible] dentures can be built by using this method. Thus, a mixt. of [illegible] bis-GMA and 1 part of triglycol dimethacrylate conta[illegible] camphorquinone and 1.5% triethanolamine is polymd. with[illegible] light. When the casting model is finished, it is taken out [illegible] cavity, a casting canal prepd. earlier from wax is attached [illegible] casting model and the whole product imbedded in a fire-[illegible] plastic mass. The mass is heated to 600° and the casting [illegible] burnt free from residues and finally, a liq. metal such a[illegible] poured into the casting form. After cooling the model is take[illegible] give a precise Au inlay.

101: 78897w **Activated carbon products for surgical dr[illegible]** Maggs, Frederick Arthur Pomroy (Charcoal Cloth Ltd.) B[illegible] **Pat. Appl. GB 2,127,389** (Cl. C01B31/08), 11 Apr 1984, GB [illegible] 82/26,038, 13 Sep 1982; 4 pp. An activated C product [illegible] charcoal cloth or felt contains Zn, Al, Ca, Mg or Fe, un[illegible] dispersed in it and may be used in surgical dressings, part[illegible] when it contains Ag. Thus, an impregnation soln. was prepd. [illegible] $NH_4Cl$, $ZnCl_2$ 3, $AlCl_3$ 3, *citric acid* [77-92-9] 4, $NH_3$ 5 and [illegible] 0.2%. Three lengths of rayon cloth (25 × 5 cm) were dipp[illegible] shallow trough contg. the impregnation soln. and each leng[illegible] passed through roller nips at 345 kPa and plant oven-drie[illegible] single pass. Samples were charred at 360° in $CO_2$ follow[illegible] activation in $C)_2$ at 950°. The cloth was active against *Staphyl[illegible] aureus* and other bacteria.

101: 78898x **Polymers for surgical goods.** Terumo Corp. **Kokai Tokkyo Koho JP 59 68,364 [84 68,364]** (Cl. C08L27/2[illegible] Apr 1984, Appl. 82/178,050, 09 Oct 1982; 6 pp. Surgical [illegible]



prepd. from halogenated vinyl polymer and I (x:y = 3:1–20:1; [illegible] $n$ = 2–20; $p$ = 5–50) have improved biocompatibility. Thus, I [illegible] 9:1; $m$ = 3; $n$ = 2–10; $p$ = 9; mol. wt. 45,000) and *PVC* [9002-[illegible] (mol. wt. 42,000) were mixed at 75:25, heated up to 130°, and [illegible] into sheets (thickness, 0.4 mm). Phys., chem., and biol. proper[illegible] the sheet were studied. The sheet may be used for the pre[illegible] blood bag and clin. tubes.

101: 78899y **Hydrogel contact lenses for permanent [illegible]** Atkinson, Ivor B.; Holdstock, Barry C. U.S. **US 4,451,63[illegible]** 526–261; C08F26/06), 29 May 1984, GB Appl. 83/11,788, [illegible] 1983; 4 pp. Hydrogel contact lenses having high tensile an[illegible] resistant properties are prepd. from hydroxy alkyl(meth)ac[illegible] copolymers contg. a triazine deriv. crosslinking agent. Th[illegible] compn. contg. *N*-vinylpyrrolidone 30, hydroxyethyl metha[illegible] 69.22, methacrylic acid 0.42, 1,3,5-tris(propenoxy)-2,4,6-triazi[illegible] and ethylene glycol dimethacrylate 0.08% were mixed with 0.2 [illegible] g monomer of azobisisobutyronitrile. The mixt. was cast in [illegible] and polymd. to give lens blanks and swelled with a mild al[illegible] saline soln. The resulting copolymer [91293-21-9] hydrogel [illegible] had tensile strength 2.75 Kgf/$cm^2$ and tear strength 0.296 K[illegible] initiation.

101: 78900s **Filling material for teeth.** Makarov, K. A.; Sht[illegible] M. Z.; Karal'nik, D. M.; Batovskii, V. N.; Dovgopol, [illegible] Sorokina, T. G.; Alekseeva, L. S.; Gagarina, L. M. (Len[illegible] Medical Institute; Kharkov Plant of Medical Plastics and [illegible] Materials) **U.S.S.R. SU 1,088,726** (Cl. A61K6/02), 30 Apr [illegible] Appl. 3,654,103, 15 Feb 1983. From *Otkrytiya, Izobret., [illegible] Obraztsy, Tovarnye Znaki* 1984, (16), 12. Addn. of 0.4–2.5 wt.% [illegible] *ethylene glycol monomethacrylate* [868-77-9] to a dental [illegible] material also contg. an ester of an epoxy resin and methacryl[illegible] 8–14, triethyleneglycol dimethacrylate 7–9, amine hardener 0.[illegible] peroxide initiator 0.3–1 and pigment 0.001–0.05 wt. %, with th[illegible] quartz powder, improves the adhesion of the material and re[illegible] residual stain in the dental material.

101: 78901t **Sterilizing with hydrogen peroxide and neutrali[illegible] of residual amounts thereof.** Houlsby, Robert Dennis (Cooper[illegible] Inc.) **Eur. Pat. Appl. EP 110,609** (Cl. A01N59/00), 13 Jun[illegible] US Appl. 444,045, 23 Nov 1982; 23 pp. Surfaces and devices [illegible] as contact lenses sterilized with aq. $H_2O_2$ solns. are treated wi[illegible] *pyruvate* [113-24-6] soln. to decomp. the residual $H_2O_2$. [illegible] removal of $H_2O_2$ from the devices makes them nonirritating [illegible] tissues. Thus, a neutralizing soln. contained Poloxamer 40[illegible] NaCl 0.2, KCl 0.1, sorbic acid 0.2, Na borate 0.22, di-Na edeta[illegible] boric acid 1.0, and Na pyruvate 0.5% and purified water suff[illegible] amt. Eight lenses were soaked in 3% $H_2O_2$ for 10 min, then cul[illegible] in a nutrient broth. Neither lens showed growth, indic[illegible]